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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,377	03/12/2004	Peter Kreuter	4842-0102PUS1	5651
2292	7590	08/05/2005		
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER ALI, HYDER	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,377

Applicant(s)

KREUTER ET AL.

Examiner

HYDER ALI

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-23 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☒ Claim(s) 10 and 12-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicant is advised that the Notice of Allowance mailed on 7/21/05 is vacated. The indicated allowability of claims 1-7,9,10 and 12-23 is withdrawn in view of the newly discovered reference(s) to Rinne (US 2,706,970). Prosecution on the merits of this application is reopened on claims 1-7,9 are considered unpatentable for the reasons indicated below. Rejections based on the newly cited reference(s) follow.

Claim Objections

Claim 10 is objected to because of the following informalities: on line 1 of claim 10, "claim 8" should read "claim 1" in order to correct the dependency of claim 10. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1,2,4-6,9 are rejected under 35 U.S.C. 102(b) as being anticipated by Rinne (US 2,706,970).

As to **Claim 1**, Rinne discloses an internal combustion engine comprising: a crank drive 30 rotatably disposed within an engine housing 3,4,5,9,11, at least one double cylinder unit defined within the engine housing, the double cylinder unit comprising at least two individual cylinders 1,2, wherein the two individual cylinders share a common cylinder wall 17 that separates the two individual cylinders 1,2 within

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the double cylinder unit, a piston 26,27 reciprocally movable within each individual cylinder, wherein each piston includes a piston head and the pistons are connected to the crank drive such the pistons reciprocate in the same direction within the individual cylinders 1,2, a cylinder space defined within each individual cylinder on the side of the piston head that is opposite of the crank drive, wherein common combustion chamber 21 is arranged in the double cylinder unit so as to continuously communicate with the cylinder spaces, and at least one slot 18 defined in the common cylinder wall 17, the at least one slot 18 being arranged and constructed to permit communication between the cylinder spaces through the at least one slot at least when the pistons are located in their bottom dead center position, and the at least one slot 18 being arranged and constructed to be blocked, such that the cylinder spaces do not communicate with each other through the at least one slot 18, at least when the pistons are located in their upper dead center position.

As to **Claim 2**, Rinne discloses the crank drive 30 is arranged and constructed such that the pistons 26,27 are located at their top dead center position at the same time.

As to **Claim 4**, Rinne discloses the crank drive comprises a crankshaft 30 having a crank pin 32, a bridge member 33 is mounted on the crank pin 32, first 28 and second 29 connecting rods are mounted on opposite sides of the bridge member 33 relative to the crank pin 32, a guide device retains the bridge member 33 at least in the uppermost position of the crankpin 32 relative to the movement paths of the such that the pistons 26,27 are located in their dead center position at the same time.

As to **Claim 5**, Rinne discloses the individual cylinders 1,2 have respective longitudinal axes that are axially and radially offset with respect to each other relative to a rotational axis of the crank drive 30.

As to **Claim 6**, Rinne discloses the individual cylinders 1,2 have longitudinal axes that are parallel to each other.

As to **Claim 9**, Rinne discloses the common combustion chamber 21 is defined as a recess that at least partially overlaps the cylinder spaces, and further comprising an injection valve 22 disposed so as to open into the recess.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne (US 2,706,970) in view of Rhoads (US 4,274,369).

Rinne discloses the limitation as sets forth in claim 1.

Rinne does not disclose the crank drive comprises a crankshaft with a crank having first and second crank pin portions, each crank pin portion having a longitudinal axis, wherein one end of a connecting rod is connected to the piston and another end of the connecting rod is connected to one of the first and second crank pin portions, and wherein the longitudinal axes of the crank pin sections are offset with respect to each other such that the connecting rods reach their extended position at the same time.

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Rhoads discloses in **FIG. 2** the crank drive 22 comprises a crankshaft with a crank having first and second crank pin portions, each crank pin portion having a longitudinal axis, wherein one end of a connecting rod is connected to the piston and another end of the connecting rod is connected to one of the first and second crank pin portions, and wherein the longitudinal axes of the crank pin sections are offset with respect to each other such that the connecting rods reach their extended position at the same time. It would have been obvious to a person having ordinary skill in the art to modify Rinne by employing crank drive as taught by Rhoads **in order to** replace the crank drive.

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne (US 2,706,970) in view of Document (DE 490,735).

Rinne discloses the limitation as sets forth in claim 1.

Rinne does not disclose the individual cylinders have longitudinal axes that are not parallel to each other.

Document (DE 490,735) the individual cylinders have longitudinal axes that are not parallel to each other.

It would have been obvious to a person having ordinary skill in the art to modify Rinne by employing the individual cylinders have longitudinal axes that are not parallel to each other **in order to** provide an engine with inclined location of the cylinders with respect to the crank shaft.

Allowable Subject Matter

Claims 18-23 are allowed.

Claims 10,12-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-7,9,10,12-23 have been considered but are moot in view of the new ground(s) of rejection. Rinne discloses at least one slot defined in the common cylinder wall.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HYDER ALI whose telephone number is (571) 272-4836. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, HENRY YUEN can be reached on (571) 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hyder Ali

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